Amendments to the Specification

Kindly amend the specification as follows.

On page 1, replace the first full paragraph under the heading "CROSS REFERENCE TO RELATED APPLICATIONS" with the following:

This application claims priority to <u>the expired</u> U.S. Provisional Application Serial No. 60/431,154 entitled "ENHANCED VERSION OF CONNEX MEMORY", ~~and~~ filed on December 5, 2002, hereby incorporated by reference in its entirety. The subject matter of this application relates to ~~pending~~ U.S. Patent ~~Application Serial No. 09/928,151~~ <u>No. 6,760,821</u> entitled "A MEMORY ENGINE FOR THE INSPECTION AND MANIPULATION OF DATA", ~~filed on August 10, 2001~~ <u>issued on July 6, 2004</u>, and U.S. ~~Application Serial No. _____ entitled~~ <u>Patent No. 7,107,478 entitled</u> "DATA PROCESSING SYSTEM FOR A CARTESIAN CONTROLLER", ~~filed December ___, 2003~~ <u>issued on September 12, 2006</u>, both of which are herein incorporated by reference in their entirety.

On pages 3-4, replace paragraph [0010] with the following:

A key field of fixed size, is attached to all data stored in most associative memory devices. A search key may then be utilized to select a specific data field, or plurality of data fields whose attached key ~~fileld(s)~~ <u>field(s)</u> match the search key, from within the associative memory device, irrespective of their named location, for subsequent processing in accordance with directed instructions.

On page 10-11, please replace paragraph [0044] with the following:

Figure 4 illustrates one embodiment of an internal structure of the m-bit cells within the CM **104**. As shown in Figure 4, the internal structure of each cell includes the following circuits:

• **ALU**: arithmetic and logic unit **130** that performs addition, subtraction, comparisons, and bitwise logic functions

- ~~leftMux~~rightMux: multiplexer ~~131~~132 which selects the ~~left~~right operand for **ALU** from:
    - ¤ **w**: the value stored in the accumulator register **134**
    - ¤ **in**: the value received from the input register **112**
    - ¤ **memOut**: the value read from the vector memory addressed by the vector address register, **VAR 118**
- leftMux: multiplexer 131 which selects the left operand for ALU from:
    - ¤ w: the value stored in the accumulator register 134
    - ¤ in: the value received from the input register 112
- **aluMux**: multiplexer **133**,which selects the value to be loaded into the accumulator register (**w 134**) from:
    - ¤ **w**: the value stored in the accumulator register 134
    - ¤ **fromLeft**: the value stored in the accumulator register of the left cell
    - ¤ **fromRight**: the value stored in the accumulator register of the right cell
    - ¤ the output of **ALU 130**
- **w**: the accumulator register **134**
- **mark**: the marker register
- tristate output buffers
- **DECODE**: a combinational circuit **137** which decodes the instructions according to the local context generated by:
    - ¤ **localFlags**: generated by **ALU**
    - ¤ **leftFlags**: the flags received from the left cell
    - ¤ **rightFlags**: the flags received from the right cell
    - ¤ **class_i**: classification code received from the **TRANSCODER**

generating:

- ■ command codes for **leftMux, rightMux, ALU, aluMux, mark, tristate buffers**
- ■ flags from neighboring cells
- ■ **state_i** bit of the cell for the **TRANSCODER**